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Value of self-talk in an early childhood setting

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Value of self-talk in an early childhood setting

Abstract

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Value of Self-Talk
in an
Early Childhood Setting

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Submitted to the

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Titled: Value of Self-Talk in an Early Childhood Setting

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CHAPTER I

INTRODUCTION

One of the main goals for which we need to strive is to prepare for the future. Since our knowledge of what their future holds is limited, it is imperative that we facilitate children's life-long learning skills along with the dissemination of facts. In order to accomplish this, it is necessary that the teacher be knowledgeable of how children learn and be open to a variety of strategies that will foster rather than impede teaching and learning.

In a 1948 UNESCO publication, Jean Piaget stated:

...if logic itself is created rather than being inborn, it follows that the first task of education is to form reasoning. The proposition 'every person has the right to education' ...means, therefore, in the first place, 'every human being has the right to be placed in a scholastic environment during his formation which will enable him to build until completion the basic tools of adaptation which are the processes of logic.' (DeVries & Kohlberg, 1987 p.19)

Jean Piaget, although not an educator, reflected on the impact of his research on education. Through his role as the director of the International Bureau of Education he worked for the adoption of techniques that were better adapted to the mind of the child.

Today the field of education recognizes the importance of implementing activities that are based on the developmental level of the child; that learning results not only from teacher instruction but also from the opportunity for the learner to construct his/her knowledge. The perspectives of Cognitive-Developmental, Constructivist, and Sociocultural Theory offer insight as to how children think and learn. These theories focus on a wide variety of intellectual abilities including academic and everyday

knowledge, problem solving, imagination, creativity and the capacity to represent the world through language. Information Processing, another cognitive perspective, addresses how the mind takes in (attends), stores (memory), and uses information. This theory views the human mind as a continuously developing, symbol-manipulating system, similar to a computer, into which information flows, is operated on, and is converted to output --answers, inferences, and solutions to problems (Atkinson & Shiffrin, 1968). Information-processing theorists recognize that the strategies that children develop for attending to and processing information are greatly influenced by their experiences--by the kinds of problems presented to them, by the kinds of instruction they receive and by the skills that their culture specifies they must master. Teacher's understanding of how the development of these abilities facilitates reasoning empowers them to create a scholastic environment that will enhance children's learning.

The focus of this paper is on the intellectual ability of language, specifically the characteristic of talk-to-self. Although it is accepted that language plays a crucial role in the formation of the child's mind, the contribution of self-talk to cognition has come into cynosure. Once believed to be an inconsequential activity, even a deterrent to learning, today it is being examined as a central force in development, especially the development of cognition (Diaz & Berk, 1992).

Teachers of young children are in an advantageous position to discern the authenticity of self talk as an aid to a child's learning. Their observations are the framework for structuring educated guesses about purposes, and indeed, the value of a particular behavior exhibited by the child. An understanding of the way children think and the strategies which they use in developing cognitive skills is the impetus for child-

centered learning. "We teach to arm children with tools, and children appropriate these tools to master their own behavior, gain independence, and reach a higher developmental level (Bodrova & Leong, 1996 p.17).

Background of the Study

Self talk is a normal and common language behavior of childhood, accounting for 20 - 60 percent of what children say as they go about their daily activities (Berk & Gavin, 1984). The Swiss Genetic Epistemologist, Jean Piaget (1962), who charted a universal pattern of intellectual growth that unfolds during infancy, childhood, and adolescence, was the first researcher to take note of the child's overt speech. In one of his early works, *The Language and Thought of the Child* (1926) he exacted the term *egocentric speech* to this behavior (Berk & Winsler, 1995 p.35). He concluded this self-talk was another indication of the preschoolers' egocentrism-- a form of cognitive immaturity that prevents the preschool child from the capability of putting themselves in the place of the other person. Piaget hypothesized that since children cannot easily take another person's role, they make little effort to tailor their speech to meet the needs of the listener (Flavell, 1985). They simply talk about what matters to them. Socialized speech evolves from interactive experiences with peers such as disagreements which provide the opportunity for the child to take another's perspective. The child's emerging ability to listen and exchange ideas along with social pressures cause the child to adapt what they say to their listeners and brings an end to their talk to self (Piaget, 1962). Piaget's view on talk-to-self is based on his premise that much of cognitive development does not depend on the ability to use language. Piaget believed cognition is prior to and broader than language

and therefore self-talk has no positive function in cognitive development (Berk & Winsler, 1995).

To Lev Vygotsky, a Russian psychologist, language in the form of self talk is not a sign of cognitive immaturity, but rather, a guide to cognitive development. He viewed it as a method employed by the child to communicate with themselves in order to guide their behavior and thinking (Vygotsky, 1978). Egocentric speech is spoken because children do not yet fully differentiate speech for others (communicative speech) and speech for self (Vygotsky, 1962). Very young children say words out loud to help direct their actions and to focus their attention on what they are doing. As children grow older, this speech does not disappear; it simply goes underground and becomes verbal thought. Vygotsky believed there is a powerful interplay between mind and language. He believed language and thought begin independently, then partially merge. As a result, language gives a tremendous boost to cognition, permitting forms of thinking that are not possible without the help of language. Vygotsky saw self talk as critical to cognitive development.

The Information Processing Theory deals with knowledge and the processes we use to act upon that knowledge. It focuses on how the mind takes in, stores, and uses information (Shiffrin & Schneider, 1977). Like Piaget's Cognitive Developmental Theory, Information Processing focuses on how more advanced concepts grow out of earlier, simpler ones and how a child's current cognitive system constrains and permits the emergence of new knowledge. The Information Processing Theory addresses the understanding of one's knowledge about what factors or variables influence thinking. This understanding is referred to as metacognition. Deciding what to attend to, selecting

strategies for retaining and retrieving input, and calling up programs for solving problems require the ability to reflect on thought (Flavell, 1985). Information Processing Theory and Vygotsky's Theory both stress the importance of metacognition in mature thinking and problem solving (Bodrova & Leong, 1996). In both theories, self-regulation, self-reflection, evaluation, and monitoring are included in metacognition. These ideas about mental activities are facilitated via language (Jenkins & Astington, 1996).

This paper will examine the impact of talk-to-self on cognitive processes and metacognition to see if its impact on cognition is strong enough to warrant adaptation of additional teaching strategies and provision within the physical, intrapersonal, and interpersonal environment. The development of talk-to-self will be reviewed from the viewpoints of Piaget, Vygotsky and Information Processing. Possible aids to development will be described along with factors that encourage and factors that discourage talk-to-self. Finally, guidelines will be suggested for facilitating talk-to-self within the early childhood setting.

Purpose of the Study

The purpose of this paper is to review the literature concerning the self-talk of children by examining the factors that encourage and discourage self-talk and by developing guidelines for an effective program of self talk. In order to achieve this purpose, the following questions will be addressed:

1. What is self-talk and how does it develop?
2. How do Piaget's, Vygotsky's and Information Processing theories differ concerning self-talk?
3. What factors encourage self-talk?

4. What factors discourage self-talk
5. What are the guidelines necessary in developing an effective program for young children's incorporation of self-talk?

Need for Study

Self-talk may play a critical role in cognitive development. A major goal of an early childhood practitioner is to create an environment that enables children to make sense of their world, to construct knowledge for themselves, and to acquire skills that will facilitate life-long learning. Teaching children to think better is a tenet of developmentally appropriate practice. Integral to this goal is an understanding of the multitude of components of cognitive development--one of which is talking-to-self.

According to Moss (1990), the preschool years are critical for the development of higher level thinking skills. Self-talk may well be one of the child's developmental behaviors that can be enlisted to enhance the development of these skills. If it is believed that self-talk reflects characteristics and qualities of thought processing in young children, this will give criteria for educational activities and principles of teaching that will enhance the environment for the development of these higher order skills. Examining the cognitive and metacognitive processes could aid in the understanding of individual differences during problem-solving. Self-talk may well be the pathway for this valuable and unobtrusive scrutiny and thus provide the information necessary for creating an environment that facilitates the development of cognition. John Cotton Dana offers the challenge, "Who dares to teach must never cease to learn." (Waite-Stupiansky, 1997, p.1).

Limitations of the Study

The literature review for this study encompasses books and articles that span thirty years. Libraries of University of Northern Iowa, Iowa State University, and Illinois State University provided the materials. Professional books were available from Merrill/Prentice Hall, MIT Press, and National Association for the Education of Young Children. Secondary resources were main references as obtaining a majority of the primary resources was prohibitive. Also finding a systematic relation between children's private speech and cognitive performance was difficult because of the lack of clarity of the definition of children's self-talk and the variety of methodology used in research.

Definition of Terms

To have a clearer understanding of this paper, the terms used in this paper will be defined in the following way:

Cognitive development: Development of a wide variety of intellectual abilities, including attention, memory, academic and everyday knowledge, problem solving, imagination, creativity, and capacity to represent the world through language.

Cognitive operation: An internal mental activity that one performs on objects of thought.

Constructivist: One who gains knowledge by acting or otherwise operating on objects and events to discover their properties.

Egocentric speech: Piaget's term for the subset of a young child's utterances that are nonsocial; neither directed to others nor expressed in ways that listeners might understand.

Egocentrism: Tendency to view the world from one's own perspective while failing to recognize that others may have different points of view.

Information Processing Theory: A perspective on cognition and cognitive development in which the human mind is likened to a computer, processing information from the environment through perception and attention (input), encoding it in memory (storage and retrieval), and applying information to the solution of problems (software).

Metacognition: One's knowledge about cognition and about the regulation of cognitive activities.

Preoperational: Piaget's second stage of cognitive development (approximately from age 2 to age 7), in which children become more sophisticated in their use of symbolic thought but are not yet able to use logic.

Private speech: Vygotsky's term for the subset of a child's verbal utterances that serve a self-communicative function and guide the child's thinking.

Scaffolding: A changing quality of support over the course of a teaching session in which the adult adjusts the assistance provided to fit the child's current level of performance. As competence increases, the adult permits the child to take over the guiding role and apply it to their own activity.

Scheme: An organized pattern of thought or action that a child constructs to make sense of some aspect of his experiences.

Self-talk: Unbiased term which encompasses two general features of the diverse speech phenomenon associated with egocentric speech and private and inner speech.

Sensorimotor: Piaget's first stage of cognitive development, during which infants and toddlers "think" through their developing senses and motor activity.

Social speech: Speech intended to be understood by a listener.

Reciprocal determinism: Notion that the flow of influence between children and their environments is a two-way street, the environment may affect the child, but the child's behavior also influences the environment.

Zone of Proximal Development (ZPD): In Vygotsky's theory, a range of tasks that the child cannot yet handle alone but can do with the help of more skilled partners.

CHAPTER II

REVIEW OF LITERATURE

Development of Self -Talk

The dictionary defines speech as the act of speaking; the expression or communication of thoughts and feelings to others by spoken words, utterances, remarks, statements, talk, or conversation. Self-talk, egocentric speech and private speech essentially describe speech which is not functionally directed at other people, nor does it contain all the information necessary for its meaning to be understandable to a listener.

The ability to communicate, the giving and receiving of information, develops slowly and continuously. As children acquire language, their enhanced ability to communicate with others lead to continuous step by step changes in thought and behavior. The first step of language thought is called external speech because thinking comes from external sources. This is adult's speech directing the child in some way (Smoluncha, 1988). In infancy the link between thinking and speech is not yet established (Vygotsky, 1962). Although infants are born with the elementary mental functions of attention, sensation, perception, and memory, initially communication develops separately from cognition (Berk & Winsler, 1995). Problems are solved with sensorimotor actions--manipulation of images rather than concepts and words. Thinking proceeds without language, and language is used only for communication (Bodrova & Leong, 1996).

Crib speech, the toddler talking to self while alone in his/her crib, begins to occur at about 18 months. This second step, egocentric speech, is one of the first utterances that is made for self. The child is speaking out loud as a way of thinking--the adult's speech

is no longer required (Smolucha, 1988). The type of speech most often employed is the repetition of audible rhythmic syllables and sounds (Berk, 1992).

Language continues to emerge as children gain the cognitive ability to symbolize (Duncan, 1991). Self-talk becomes a means for representing goals. Between 14 and 28 months the child will make remarks to nonhuman objects while engaged in pretend play. This behavior marks the transition from prelinguistic to verbal reasoning. The child is now able to apply guiding words given by others to their own actions (Vygotsky, 1962). Words are integrated into thinking, but the child still depends on physical manipulation of objects to support problem solving (Bodrova & Leong, 1996). Application of words proceeds from a partial description of an ongoing action, to distinguishing from action, to formulating and carrying out action (Wertsch, 1979).

At first, self-talk is correlated with controlling motor acts. Children frequently issue commands to themselves in order to control particular hand movements, eye movement, and routinized actions (Feigenbaum, 1992). Imperatives are used to direct, modify, or end particular physical actions. The natural rhythmically vocalizations of the young child focus attention and aid in the coordination of speaking and motor systems. Words represent actions and describe accumulated experiences. Youngsters try to control their own behavior and thoughts without others present, they instruct themselves by speaking aloud. Such self-talk, which begins at about 2 years of age, is one way that children regulate their behavior, and it represents an intermediate step in the transfer of control of thinking from others to the self (Furrow & Nelson, 1984). Children are now doing for self, what adults did for them during joint problem solving (Winsler, Diaz, & Montero, 1997).

The younger preschooler engages in monologues and collective monologues. In collective monologues, several children are playing together, each holding a self-directed conversation at the same time, not caring whether the utterances are understood by the others in the group. The child's comments are completely unrelated to the prior remarks of companions (Berk & Winsler, 1995). These self-directed utterances of children are highly diverse and serve a wide range of purposes. Berk and Garvin (1984) organized this self-talk into categories: egocentric communication, wordplay and repetition, fantasy play, affect expression, remarks to nonhuman objects, self-answered questions describing or guiding one's own activity, self-answered questions, reading aloud, and inaudible muttering. Eight of the categories correlate to Vygotsky's premise that speech plays a central role in self-directed goal attainment and practical problem solving. Egocentric communication which is a reflection of the child's ongoing mental activity correlates with Piaget's interpretations.

The amount of audible private speech declines between the ages of 3 and 8. At age 5 and older, semantic content of private speech becomes more powerful than rhythmic patterns in controlling thoughts and actions (Fuson, 1979). As speech progressively merges with thought, less overt explicitness is needed as it only needs to be intelligible to the child. The child has an intuitive sense of internal audience so utterances which begin as complete phrases decrease to muttering in single words, to barely discernible tones, to lip movements (Feigenbaum, 1992).

At about age seven or eight, audible self-talk becomes inner speech. Inner speech is totally internal, nonaudible, self-directed, and retains some of the characteristics of external speech. Overall the structure is nongrammatical, and logical primarily to oneself

(Bodrova & Leong, 1996). Children now use inner speech to talk to themselves. They hear the words to organize and regulate activities but do not say them aloud (Bodrova & Leong, 1996).

The Views of Piaget, Vygotsky, and Information Processing Concerning Self-Talk

Piaget and Vygotsky both viewed self-talk as a means of integrating language with thought; however, they differed in their perspectives on its purpose and value to learning (Berk & Winsler, 1995). Piaget described young children as solitary explorers constructing knowledge of the world through their own actions. For Piaget, concepts develop primarily from interactions with physical objects, and adults play only a minor role--organizing the environment and creating problems. Piaget attributed this language phenomena to cognitive immaturity, believing children talk while doing things because the symbolic function of language is not fully developed. They are unable to distinguish between words and the action the words represent. Language is an outgrowth of the sensorimotor activity involved in infant's and young children's independent exploration of the physical world. The content of this talk to self does not involve thinking. The verbalization is a form of echololia or repetition, no thought is involved in the process (Berk & Winsler, 1995). Piaget (1962) believed audible speech occurs because children do not fully differentiate communicative speech (speech for others) and speech for self. He felt that social interaction was the key to its decline and final disappearance, for the child was learning to consider the views of others while speaking--becoming less egocentric, so was now able to adapt speech which the listener could understand. Piaget

contended that private speech serves no positive or adaptive purpose in the life of the young child.

In contrast, Vygotsky believed the child was communicating with him/herself and this communication promoted a decline in egocentrism. He viewed the collective dialogue as an emerging form of private speech; not totally egocentric but social in nature. Vygotsky saw children's initial self-talk as a playful form of speech resulting from interactions with adults. Verbal directives, responses to the child's nonverbal activity; narrations by the adult of their own activity, and conversations between the adult and child were all sources for self-talk (Bodrova & Leong, 1996). Through this speech-to-self, young children's behavior, previously limited to unthinking reactions to objects, toys, and words, was now being escalated to the level of acting out a plan (Diaz, Neal, Amaya, 1990)... Vygotsky theorized language is branching off from the social domain and entering the cognitive.

Vygotsky agreed with Piaget that the child's earliest thinking is prelinguistic and that early language often reflects what the child already knows. However, he argued that many of the nonsocial utterances that Piaget called 'egocentric' actually illustrate the transition from prelinguistic to verbal reasoning. He concluded that nonsocial speech is not egocentric but communicative; it is a 'speech for self', or private speech, that helps young children to plan strategies and regulate their behavior so that they are more likely to accomplish their goals. (Vygotsky, 1962). Vygotsky suggested the change in form occurred because private speech initially adopted the structure and content of the earlier adult interactive speech, social monologues, and dialogue-conversations, but not their functions. Vygotsky believed the decline in self-talk as children grew older was because

of the gradual internalization of the verbal form to thought (Duncan, 1991). The child is now able to differentiate speech for others and speech for self. Their speech has gone underground. Vygotsky believed that language and thinking have merged when the child can think primarily in words (Kronk, 1994). He viewed the appearance of talking to self as a significant moment in cognitive development as it marked the reorganization of thought and language now allowing all human higher mental functions to emerge. He believed the child now begins to use language, not only using communication with others, but also using communication to self (Berk & Winsler, 1995). Vygotsky (1962) labeled this 'thinking out loud' private speech as he concluded that this talk to self was vocalized thought which contained information as well as self-regulatory comments. Instead of viewing this speech as a cognitive limitation as Piaget did, Vygotsky believed it gave a boost to cognition (Diaz & Berk, 1992).

...A child's speech is an inalienable and internally necessary part of the operation [of problem solving], its role being as important as that of action in the attaining of a goal. The experimenter's impression is that the child not only speaks about what he is doing, but that for him speech and action are in this case *one and the same complex psychological function* directed toward the solution of the given problem. (Vygotsky and Luria 1984/1994 p.109)

Both Piaget and Vygotsky subscribe to the ideals of Constructivism--the perspective that knowledge is gained by acting or operating on objects and events to discover their properties. This view emphasizes the active role of the learner in building understanding and making sense of information. However they do not approach the perspective from the same point of view. Piaget's view is endogenous. It emphasizes construction of knowledge by transforming and reorganizing learner's existing cognitive structures (Moshman, 1982). To Piaget, cognitive development is more than the addition

of new facts and ideas to an existing store of information. He believed thinking processes change radically, though slowly, from birth to maturity because we constantly strive to make sense of the world. Exploration and discovery are more important than teaching.

Vygotsky's view of constructivism is dialectical. This view holds that knowledge grows through the interactions of internal (cognitive) and external (environmental and social) factors (Moshman, 1982). Knowledge is constructed based on social interactions and experience. It is through the internalization and use of cultural tools such as language that cognition develops. Guided discovery, teaching, models, and coaching as well as the individual's prior knowledge, beliefs, and thinking affect learning (Bruning, Schraw, & Ronning, 1995).

Information processing focuses on mental strategies that children use to operate on stimuli flowing into their mental system, increasing the chances that information will be retained and adapted to the situation at hand. Retention depends on the depth to which information is processed by the system. The enactment of deliberate mental activities on a limited amount of information improve the likelihood that information will be retained in the long-term memory. Strategies used to gather, store, retrieve, and operate on information evolve gradually over the course of childhood and adolescence (Siegler, 1991). Developing persons become better at sustaining attention, recognizing and storing task-relevant information, and executing mental programs that allow operation on what has been stored in order to answer questions and solve problems.

Initially, the majority of cognitive operations requires a great deal of effort. With practice, the same operations require less mental effort, making available more mental resources (Case, 1985). This process is exemplified by the shift of self-talk from the end

of the action to the beginning, because the child has practiced and become familiar with a task or action (Winsler, Diaz, & Montero, 1997).

During early childhood, advances in representation and children's ability to guide their own behavior lead to more efficient and flexible ways of manipulating information and solving problems (Berk, 1992). Self verbalization becomes a way to aid the encoding and retrieval processes (Fuson, 1979). Children, by enacting the verbal instructions experienced with caregivers while working on tasks, are actively contributing to mental changes (Feigenbaum, 1992). Words are used to call to mind what is not visible, to control behaviors while working on a task, and to repeat steps to guide their actions (Berk, 1992). Gains in information processing capacity are largely due to improvement in strategies such as attending to information, and categorizing it effectively (Case, 1985). Self-talk provides one of the executive controls over these cognitive processes; it is also an avenue for assessing how stimuli is flowing in the child's mental system.(Winsler, Diaz, & Montero, 1997). An analysis of children's self-talk experiences gives insight about what occupies their minds, and how they reason in a given situation.

Factors That Encourage Self-Talk

Bandura (1986) proposed the concept of reciprocal determinism which states that there is a bi-directional link among persons, behaviors, and environments. The situation (environment) affects the child and the behavior of the child affects the environment.

Learners bring with them knowledge and individual characteristics that enter into each learning act. Preconceived notions, reasoning skills, maturation level, and earlier experiences affect the way learners perceive and interpret each new experience.

Familiarity of the setting, type of task, semantic content, opportunity for verbalization,

and adult attitudes are environmental influences. The child needs to feel safe to make mistakes. A safe environment is created by providing encouragement, affection, positive reinforcement and gentle guidance (Fisher, 1987). This sense of security triggers the attention system and allows focus on content, opening the brain to all kinds of possibilities.

Children have an episodic memory for everyday experience. They select experiences, relate them to one another, and interpret them on the bases of previous knowledge. They use scripts, general descriptions of what occurs and when it occurs in a particular situation, to organize and interpret familiar experiences. As the child's brain and nervous system mature, new strategies are adapted for remembering what they experienced, attending to information, interpreting it, and monitoring their mental activities (Bjorklund, 1995). Metacognitive skills such as knowing how to structure the environment for learning and choosing useful problem-solving strategies enable children to regulate their own learning and behavior. Planning, guiding, and evaluating develop as children use speech to solve problems, first with adults, and then alone (Berk & Winsler, 1995). Research shows that children incorporate more private speech when they are working with an adult who sensitively supports their activity (Berk & Winsler, 1995).

Adults who make their actions and the actions of the child verbally explicit, tie a concept to actions, model talking while working on a task, and coach the child on what he might say to himself as he is working on a task are providing a framework for incorporation of self-talk as a strategy to solve problems. One strategy to incorporate self-talk into children's ongoing activities as self-talk is to meet cognitive demands by using scaffolding. When scaffolding, the teacher directs the child's attention by

providing reminders of the learning goal. The adult carefully regulates the difficulty of the task through the amount of assistance that is provided to the child. The gap between what the child can achieve with their independent problem solving and what they can achieve through problem solving under adult guidance is referred to as the Zone of Proximal Development or ZPD (Wood & Wood, 1996). This Vygotskian concept involves the adult supporting a child's learning through language. Self-talk is fostered when the given task is at the upper end of the child's current abilities, and patient, encouraging assistance and feedback are given (Berk, 1994). If a child is using overt, task-relevant self-talk, the activity is probably challenging enough for the child to use self-talk, but not too difficult to accomplish. If it is within the child's ZPD, as evidenced by his active attentiveness and engagement to the task then adults must regulate the learner's task by the amount of assistance provided to the child (Diaz & Berk, 1992). Thus, the adults maintain the child in the ZPD, for children create and expand their own ZPD as they realize they can answer their own questions and scaffold themselves (Berk & Winsler, 1995). Children are now doing for self, what adults did for them during joint problem solving.

Activities that allow for guided or assisted discovery with the adult talking about the activity, asking questions, and encouraging children to describe what they are doing throughout the activity provide opportunity for children to explain their activities to themselves. Conceptual/divergent questions in contrast to convergent/directing and perceptual questions force the child to function at the level of mentally represented plans and rules, promoting a symbolic detachment from the immediate perceptual field (Gallimore & Tharp, 1990). As children become better at sustaining attention, actively

channeling input, showing they are able to monitor their own cognitive activities unassisted, caregivers begin to demand more independence and give the child more responsibilities (Bodrova & Leong, 1996). Physical withdrawal accompanied with direct relinquishing statements places the child at the center of the action and exerts a subtle pressure and demand for the child to take over responsibility for the task (Gallimore & Tharp, 1990).

External mediators such as written numbers on a card correlating to centers prompt the child to talk-to-self, “First I go to the listening center, then to the water table”. Action combined with verbalization are needed to help children remember; “We have to put this in our memory bank (pointing to forehead). “Let’s say it three times and put it in.” (Bodrova & Leong, 1996 p. 106). Rhymes and songs such as the ‘Alphabet Song’; ‘This is the Way We Pick Up Toys’ utilize verbal rehearsal for retrieval of concepts.

Winsler and Diaz (1997) found children engage in a large amount of self-talk while involved in goal-directed, problem-solving activities such as tasks that capitalize on visuospatial and perceptual-matching abilities. Puzzles and block designs invite self-talk as a mediating tool to guide and direct their activity (Diaz & Berk, 1992). These tasks afford the opportunity for active involvement with concrete materials and afford time for children to reflect on their learning, decision making, and planning—both advantageous for utilizing self-talk.

Reading books in which the characters talk to themselves reinforces the normalcy of self-talk. Children become part of the story and are involved in the forms of talk and thinking depicted there (Wertsch, 1991).

Self-talk is high during solitary play. Children incorporate self-talk when playing with pretend playmates, directing and acting out a scene with toys. It provides a context for using language to plan strategies and to solve problems. Young children at play constantly set challenges for themselves which often involve self-talk to direct their thought processes and behavior (Gillingham & Berk, 1995).

Dramatic play stimulates self-talk along with providing practice and strengthening of organization of experiences (Berk, 1992). Through play the child gains the ability to separate thought from actions and objects, and connect actions to words (Dyson, 1990). Children can symbolize ideas and feeling through gestures and speech, and collaboration with friends. Self-talk occurs more often when children are exposed to peers who are using it (Keeney, Cannizzo, & Flavell, 1967).

Teachers increase opportunity for self-talk when they allow sufficient amount of time for play, help children plan their play, choose appropriate props and toys, provide themes that can be extended from one day to the next, coach individuals who need help, and model appropriate ways to solve disputes (Berk, 1994). These teacher behaviors provide a reference base for the child, give them verbalizations they can imitate and draw upon, as well as aid in planning continuity. As the child redefines situations in terms of the adult perspective; language is internalized and used to organize independent efforts (Berk, 1994).

Factors That Discourage Self-Talk

In a study done by Berk and Garvin (1984), almost five times more comments were made when the teacher was not in close proximity to the children. One possible interpretation is that children chose not to use as much private speech in front of the adult

because they felt it was socially unacceptable (Kronk, 1994). Our culture presently does not encourage the behavior of private speech. Therefore talking out loud, whether to the self or others, is usually discouraged in the classroom setting as it is regarded as meaningless, socially unacceptable conduct (Frauenglass & Diaz, 1985). Often, it is seen as a sign of withdrawal from the social world.

Children produce less talk to self in situations in which communication with others is impossible or difficult (Siegler, 1991). Adults who are verbally directive and do not relinquish control in accord with the child's increasing competence reduce the likelihood that children will use self-talk (Berk & Winsler, 1995). An inconsistent classroom, one lacking uniform schedules and a daily routine, produces a room of pandemonium. The resulting cacophony is a deterrent to a child invoking self-talk.

Also a deterrent to self-talk is presenting a task that is extremely easy for a child, one that can be performed automatically with little or no cognitive effort. Cognitive disequilibrium causes the child to seek new strategies to fit new information into their current schemes. If the task does not present a challenge and it is below their zone of proximal development, children are denied the opportunity to modify their scheme, possibly by using self-talk.

There are constraints on how quickly we can process information (Shiffrin & Schneider, 1977). Children vary in their ability to attend to a task. Research indicates that young children have very limited working memories (Lyon & Flavell, 1994). As a result, they have difficulty holding on to the to-be-learned information and applying a strategy at the same time (Lyon & Flavell, 1994). Preschoolers awareness of inner cognitive activities is incomplete. The preschooler seems to view the mind as a passive

container of information and therefore do not feel they have a need to develop mental activities that improve task performance (Wellman, 1985).

Guidelines for Developing an Effective Program for Young Children's Incorporation of Self-Talk

The following guidelines should be incorporated for optimal usage of self-talk within a program for young children:

Guideline 1. Create intellectually active methods that enhance the learning environment.

Children's environments have been postulated as contributing substantially to individual differences in children's thinking (Waite-Stupiansky, 1997). Children vary in their thinking capacity which include aspects of their perception, attention, memory, and problem solving activity (Moss, 1990). An environment that is organized but flexible stimulates children's creative thinking and problem solving.

The changes that occur in cognitive development are based on the child's ability to change ways of thinking about the world when existing ideas do not match new information and experience. Preschool years are critical for development of higher level thinking skills (Moss, 1990). Comprehension of the stages of development and how the stages are influenced, enhances understanding of the involvement of speech and the cognitive processes it accompanies and then guides (Zivin, 1979).

'The more complex the action demanded by the situation and the less directed its solution, the greater the importance played by speech in the operation as a whole. Sometimes speech becomes of such vital importance that without it the child proves to be positively unable to accomplish the given task.' (Vygotsky and Luria 1984/1994 p.109)

The challenge is to create intellectually active methods that enhance the learning environment. Implementation of a program that sanctions self-talk requires skills in selecting and organizing activities. Piaget emphasized the necessity for educators to develop methods appealing to children's spontaneous activity. The essential characteristics of active methods are that they inspire children's interests, play, experimentation, and cooperation (DeVries & Kohlberg, 1987). Activities planned around guided or assisted discovery channel curiosity into new learning experiences, and allow for choices that lead to autonomy. This endorsement for taking responsibility builds confidence, a willingness to take risks and ability to learn from mistakes (Bodrova & Leong, 1996). Language plays an active role in guided discovery, with the adult talking about the activity, asking questions, and encouraging the child to describe what he is doing throughout the activity (Berk & Winsler, 1995).

A rich context for guided discovery includes time for, storytelling, sciencing, and play. Adequate time in the schedule is needed for the child to reflect on their learning, decision making, cooperative learning, and planning—time to think (Berk & Winsler, 1995).

Scaffolding is a cooperative learning experience which sanctions the child to imitate the guiding voice of the adult (Berk & Winsler, 1995). Components include giving information, prompts, reminders, encouragement at the right time and in the right amounts, and then gradually allowing the child to do more and more on his/her own.

Bodrova and Leong (1996) advised that, from the Vygotskian approach, we can incorporate several ways within the environment to enhance children's use of self-talk during the early years:

- (1) Make actions and the children's actions verbally explicit. Avoid vague relational terms such as 'these things' or 'those.' Help children label their own behavior.
- (2) Model thinking and strategies aloud.
- (3) Tie actions to a new concept.
- (4) Use questioning while talking to check children's understanding of concepts and strategies. Have children repeat ideas back to you or show you how they understand an idea. Have children talk to each other; then list to what they say to each other.
- (5) Use different contexts and different tasks as you check whether or not children understand a concept or strategy. Have the children interact with peers or change tasks.
- (6) Encourage the use of self-talk by allowing children to whisper to themselves or sit in a place where private speech will not bother others.
- (7) Use external mediation. Coach children on what they might say to themselves as they do something. Have a card on the children's table with the numbers 1,2,3. Use idea of having a place in your head called a memory bank.
- (9) Encourage 'thinking while talking (ps. 106-107).

Guideline 2. Honor variety of learning styles.

Children use a variety of strategies in their learning. These strategies should be recognized and appreciated. Honoring different learning styles yields the opportunity for children to match new information to their experiences. Recognizing self-talk as a strategy for learning would be helpful to some children as it can serve as an indicator of the extent of internalization of strategies and also the developmentally appropriateness of activities (Winsler, Diaz, & Montero, 1997). This belief will afford children the

opportunity to use self-talk to organize their own thinking and authorize them to form their own cognitive structures (Berk & Winsler, 1995). It also enables the child to become more tolerant and accepting of others. Creating an atmosphere where children do not feel their behaviors are under scrutiny causes them to see that displaying self-talk may be to their advantage (Bodrova & Leong, 1996).

Guideline 3. Teachers must continuously evaluate the use of self-talk within the program.

To evaluate the child's mental development, the teacher needs to understand and appropriately assess children's spontaneous procedures, which otherwise might appear a waste of time (DeVries & Kohlberg, 1987). The child's self-talk provides data as well as clues to their reasoning which in turn becomes a basis for adapting instruction (Waite-Stupiansky, 1997). Accepting private speech as a healthy, essential behavior and recognizing that some children need to use it more often and over a longer age span than do others opens the door wider not only to understanding children's mental development, but also can facilitate children's learning (Berk & Winsler, 1995).

CHAPTER 111

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this review of the literature was to examine the factors that encourage and discourage self-talk and to develop guidelines for an effective program of self-talk. The review of the literature addresses five questions to accomplish this purpose:

1. What is self-talk and how does it develop?

The review of the literature begins by looking at the development of self-talk. It says that as children become capable of thinking as they talk, language becomes a tool for reflecting on thought and action (Bodrova & Leong, 1996). The acquisition of language leads to continuous step by step changes in thought and behavior.

Infants have not established a link between thinking and speech. Learning occurs through Sensorimotor actions rather than words. First utterances for self occur at about 18 months in the form of rhythmic syllables and sounds (Berk, 1992). The toddler while in the crib appears to be employing self-talk to practice speech (Berk, 1992). As the child gains the cognitive ability to symbolize, words are gradually integrated into thinking (Duncan, 1991).

At first self-talk is correlated to motor acts. Words represent actions and children instruct themselves by speaking aloud. The child is mimicking what was done for him/her during joint problem solving with adult (Winsler, Diaz & Montero, 1997).

One of the more significant moments in cognitive development occurs when the preschool child begins to use language as a tool of thought to direct his/her own behavior

and attention (Berk & Winsler, 1995). The self-directed utterances of preschoolers are highly diverse and serve a wide range of purposes. Berk and Garvin (1984) organized self-talk into the following categories: egocentric communication, wordplay and repetition, fantasy play, affect expression, remarks to nonhuman objects, self-answered questions describing or guiding one's own activity, self-answered questions, reading aloud, and inaudible muttering.

Self-talk increases over the preschool years and then begins to decline as the child enters school (Berk & Winsler, 1995). Overt speech is gradually replaced with whispers, inaudible muttering and silent lip movements as self-talk becomes progressively internalized (Bivens & Berk, 1990). Children hear the words to organize and regulate activities but do not say them aloud (Bodrova & Leong, 1996).

2. How do Piaget's, Vygotsky's and Information Processing theories differ concerning self-talk?

Cognitive perspectives of Piaget, Vygotsky, and Information Processing was the second question examined. Piaget believed that cognitive development does not depend on the ability to use language (Berk & Winsler, 1995). Self-talk was merely another indication of the preschooler's egocentrism, a behavior of the Preoperational stage of cognitive development. He viewed self-talk as run-off-thoughts with no thought being involved in the process (Berk & Winsler, 1995). It's eventual disappearance resulted from the child's emerging abilities to listen and exchange ideas. Self-talk served no positive or adaptive purpose in the life of the young child.

In Vygotsky's view, self-talk is a milestone in cognitive development; marking the transition from prelinguistic to verbal reasoning as it marks the reorganization of

thought and language allowing all human higher functions to emerge (Berk & Winsler, 1995). It serves as a guide to cognitive development; facilitating children's thinking by allowing them to solve problems and reflect upon difficulties they encounter. Instead of disappearing, Vygotsky believed that self-talk is a forerunner to the internal dialogues that we use when we reason with ourselves during thinking (Vygotsky, 1962/1986). He saw it as a boost to cognitive development.

Information processing the third perspective examined recognizes self-talk as a strategy that a child utilizes to focus attention and ensure retention of information (Borkowski & Peck, 1986). Development changes occur in how children attend to, represent, store, and combine information. These changes occur at various points in the system: the sensory store, short term memory, and long term memory. Much of this development occurs via self-modification, as children formulate rules of decision making and modifying them as a result of feedback (Shiffrin & Schneider, 1977).

3. What factors encourage self-talk?

The literature revealed that several environmental factors increased the likelihood that self-talk will be used. These factors include the accepting attitude of the teacher, scaffolding, modeling of self-talk, coaching, knowledge of child's zone of proximal development, verbal explicitness, concrete materials, assisted questions, external mediators, tasks that capitalize on visuospatial and perceptual-matching abilities, literature in which characters talk to themselves, time to think, solitary and sociodramatic play. The child's level of metacognitive skills is also a factor.

4. What factors discourage self-talk?

The cognitive limitations related to a preschoolers working memory was a factor found in the literature that discouraged self-talk. Environmental factors discouraging self-talk include perception that self-talk is not socially acceptable and even meaningless, utilizing a predominance of direct questions, presenting tasks that are below the child's zone of proximal development and a clamorous environment.

5. What are the guidelines necessary in developing an effective program for young children's incorporation of self-talk?

The last section of the review discusses guidelines for promoting self-talk in a program for young children. The guidelines that were presented were developed for modeling thinking out loud, and for utilizing assisted questions, incorporating scaffolding, permitting whispering to self, providing an area where self-talk will not bother others, utilizing external mediators, encouraging thinking while talking, allowing time for thinking in the schedule, honoring a variety of learning styles, and creating an organized but flexible environment.

Conclusions

The following conclusions are drawn from this study:

1. Self-talk is used by children to talk things through as they complete a task.
2. Self-talk provides the assistance some children need to help them look at their own thinking.
3. The essential program characteristics that promote spontaneous activity also sanction self-talk.
4. Children who use self-talk freely during a challenging activity are more attentive

and involved and show greater improvement in task performance than their less talkative agemates.

5. Children tend to use more private speech when they are confused, having difficulties or making mistakes.
6. Self-talk is used to focus attention, pace motor activity, mark endings and transitions and self-motivate.
7. Self-talk serves as a useful window for observing what is going on inside the child's developing mind and the degree to which classroom tasks and activities are appropriately challenging for children.
8. Demands of a task, social context, and child's characteristics govern the extent and ease with which children utilize self-talk.

Recommendations

After reviewing the literature and taking into account my observations of young children, I recommend that self-talk be encouraged as it correlates with cognitive characteristics of children. Practices in a quality program are already in place that invite self-talk, it is mainly a matter of adapting attitudes regarding the value of self-talk and gaining an understanding of self-talk's contribution to cognitive development. If the adult is not comprehending what they are seeing, they will not be able to make accommodations that will further facilitate a child's learning. I also recommend that additional studies concerning the value of self-talk to cognitive development be conducted to understand this topic better.

REFERENCES

- Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K. W. Spence & J. T. Spence (Eds.), The Psychology of Learning and Motivation: Advances in Research and Theory Vol 2, 90-195. Orlando, FL: Academic Press.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
- Berk, L. E. (1994). Vygotsky's theory: The importance of make-believe play. Young Children, Nov., 30-39.
- Berk, L. E. (1992). Children's private speech: An overview of theory and the status of research. In R. M. Diaz & L. E. Berk (Eds.), Private speech: From Social Interaction to Self-Regulation. Hillsdale, NJ: Erlbaum.
- Berk, L. E., & Garvin, R. A. (1984). Development of private speech among low-income Appalachian children. Developmental Psychology, 20, 271-286.
- Berk, L.E., & Winsler, A. (1995). Scaffolding Children's Learning: Vygotsky and Early Childhood Education. NAEYC Research and Practice Service, 7. Washington, D.C: National Association for the Education of Young Children.
- Bivens, J. A., & Berk, L.E. (1990). A longitudinal study of the development of elementary school children's private speech. Merril-Palmer Quarterly, 36, 443-463.
- Bjorklund, D. F. (1995). Children's Thinking: Developmental Function and Individual Differences (2nd ed.). Pacific Grove, CA: Brooks/Cole.
- Bodrova, E., & Leong, D.J. 1996. Tools of the Mind: The Vygotskian Approach to Early Childhood Education. Englewood Cliffs, NJ: Merrill/Prentice Hall.
- Borkowski, J. G. & Peck, V. A. (1986). Causes and consequences of metamemory in gifted children. In R. J. Sternberg and J. E. Davidsons (Eds.), Conceptions of Giftedness, 182-201. Cambridge: Cambridge University Press.
- Bruning, R. H., Schraw, G.J., & Ronning, R. R. (1995). Cognitive Psychology and Instruction (2nd ed.). Englewood Cliffs, NJ: Merrill/Prentice-Hall.
- Case, R. (1985). A developmentally based approach to the problem of instructional design. In R. Glases, S. Chipman, & J. Segal (Eds.), Teaching thinking skills. Vol. 2, 545-562. Hillsdale, NJ: Erlbaum.

DeVries, R., & Kohlberg, L. (1987) Constructivist early education: Overview and comparison with other programs. Washington, DC: NAEYC.

Diaz, R. M., & Berk L. E. 1992. Private speech: From Social Interaction to Self-Regulation. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Diaz, R. M., Neal, C. J., & Amaya-Williams, M. (1990). The social origins of self-regulation. In L. Moll (Ed.), Vygotsky and Education: Instructional Implications and Applications of Sociohistorical Psychology 127-154. Cambridge: Cambridge University Press.

Ducan, R. M. (1991). An examination of Vygotsky's theory of children's private speech. Paper presented at the Biennial Meeting of the Society for Research in Child Development. April 18-20. Seattle, Washington.

Dyson, A. H. (1990). Symbol makers, symbol weavers: How children link play, pictures, and print. Young Children, 45(2), 50-57.

Feigenbaum, P. (1992). Development of the syntactic and discourse structures of private speech. In R. M. Diaz, & L. E. Berk (Eds.), Private Speech: From Social Interaction to Self-Regulation, 181-198. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Fisher, K. W. (1987). Commentary—Relations between brain and cognitive development. Child Development, 58, 623-632.

Flavell, J. H. (1985). Cognitive Development (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Frauenglass, M. H., & Diaz, R. M., (1985). Self-regulatory functions of children's private speech: A critical analysis of recent challenges to Vygotsky's theory. Developmental Psychology, 21, 357-364.

Fuson, K. C. (1979). The development of self-regulating aspects of speech: A review. In G. Zivin (Ed.), The Development of Self-Regulation Through Private Speech, 135-217. New York: Wiley.

Furrow, D., & Nelson, K. (1984). Environmental correlates of individual differences in language acquisition. Journal of Child Language, 11, 523-534.

Gallimore, R. & Tharp, R. (1990). Teaching mind in society: Teaching, schooling, and literate discourse. In L. C. Moll (ed.), Vygotsky and education: Instructional implications and applications of sociohistorical psychology. New York: Cambridge University Press.

Gillingham, K.M., & Berk, L.E. (1995). The role of private speech in the development of young children's focused attention during play. Paper presented at the biennial meeting of the Society for Research in Child Development, March, Indianapolis.

Jenkins, J. M., & Astington, J. W. (1996). Cognitive factors and family structure associated with theory of mind development in young children. Developmental Psychology, 32, 70-78.

Lyon, T. D., & Flavell, J. H. (1994). Young children's understanding of "remember" and "forget". Child Development, 65, 1357-1371.

Keeney, T. J., Cannizzo, S. R., & Flavell, J. H. (1967) Spontaneous and induced verbal rehearsal in recall task. Child Development, 38, 953-966.

Kronk, C. (1994). Private speech in adolescents. Adolescence, 29, 781- 805.

Moshman, D. (1982). Exogenous, endogenous, and dialectical constructivism. Developmental Review, 2, 371-384.

Moss, E. (1990) Social interaction and metacognitive development in gifted pre-schoolers. Gifted Child Quarterly, 34, 16-20.

Piaget, J. (1962). Comments on Vygotsky's Critical Remarks Concerning "The Language and Thought of the Child" and "Judgment and Reasoning in the Child." Cambridge, MA: MIT Press.

Shiffrin, R. M., & Schneider, W. (1977). Controlled and automatic human information processing. II. Perceptual learning, automatic attending, and a general theory. Psychological Review, 84, 127-190.

Siegler, R. S. (1991). Children's thinking (2nd ed.) Englewood Cliffs, NJ: Prentice-Hall.

Smolucha, F. (1988). An introduction to Vygotsky's theory of social-cognitive development. Unpublished manuscript.

Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Mental Process. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1962). Thought and Language (A. Kozulin, Trans.) Cambridge, MA: MIT Press.

Vygotsky, L. S., & Luria, A. (1994). Tool and symbol in child development. In R. Van der Verr & J. Valsiner (Eds.), The Vygotsky Reader. 99-174. Oxford: Blackwell. (Original work published in 1984).

Waite-Stupiansky, S. (1997). Building Understanding Together. Delmar Publishers.

Wellmen, H. M. (1985). The child's theory of mind: The development of conceptions of cognition. In S. R. Yussen (Ed.), The growth of reflection in children 169-206. San Diego, CA: Academic Press.

Wertsch, J. V. (1991). Voices of the mind: A sociocultural approach to mediated action. Cambridge, MA: Harvard University Press.

Wertsch, J. V. (1979). The regulation of human action and the given-new organization of private speech. In G. Zivin (Ed.), The Development of Self-Regulation Through Private Speech, 79-98. New York: Wiley.

Winsler, A., Diaz, R. M., & Montero, I. (1997) The role of private speech in the transition from collaborative to independent task performance in young children. Early Childhood Research Quarterly, 12, 59-79.

Wood, D. & Wood, H. (1996). Vygotsky, tutoring and learning. Oxford Review of Education, 22n1, 5-17.

Zivin, G. (1979). Self-Regulation Through Private Speech. New York: Wiley.